Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A hologram recording method comprising:

irradiating an optical recording medium with a signal light beam and a reference light beam at the same time; and

performing multiple recording of information of the signal light beam as a hologram of a plurality of pages in the optical recording medium by changing a recording angle while changing an angle formed between the signal light beam and the reference light beam,

wherein each page of the hologram is newly recorded at a recording angle different from a recording angle of each page of a hologram previously recorded in the optical recording medium.

2. (Original) A hologram recording method according to claim 1, wherein the recording angle at which each page of the hologram is recorded is an angle at which light beam intensity of a reproduced light beam from each page of the hologram previously recorded in the optical recording medium is minimized.

3. (Original) A hologram recording method according to claim 1, wherein a polarization state of the signal light beam or the reference light beam at the time of recording each page of the hologram is caused to be different from a polarization state of the signal light beam or the reference light beam at the time of recording each page of the hologram previously recorded in the optical recording medium.

4. (Original) A hologram recording method according to claim 3, wherein:

a polarization direction of the signal light beam and a polarization direction of the reference light beam at the time of newly recording each page of the hologram are caused to be orthogonal to each other when a polarization direction of the signal light beam and a polarization direction of the reference light beam at the time of recording each page of the hologram previously recorded in the optical recording medium are parallel to each other; and

the polarization direction of the signal light beam and the polarization direction of the reference light beam at the time of newly recording each page of the hologram are caused to be parallel to each other when the polarization direction of the signal light beam and the polarization direction of the reference light beam at the time of recording each page of the hologram previously recorded in the optical recording medium are orthogonal to each other.

5. (Original) A hologram recording method according to claim 1, wherein the optical recording medium comprises a photorefractive material.

6. (Original) A hologram recording method according to claim 1, wherein the optical recording medium comprises a photochromic material.

7. (Original) A hologram recording method according to claim 1, wherein the optical recording medium comprises a polarization sensitive material.

8. (Original) A hologram recording method according to claim 1, wherein the optical recording medium comprises at least one kind of polymer selected from polyesters.

9. (Original) A hologram recording method according to claim 8, wherein the at least one kind of polymer has an azobenzene structure in a side chain.

10. (Original) A hologram recording method comprising:

irradiating an optical recording medium with a signal light beam and a reference light beam at the same time while making an angle formed between the signal light beam and the reference light beam a constant value; and

performing multiple recording of information of the signal light beam as a hologram of a plurality of pages in the optical recording medium, in such a manner that a recording position is changed while relatively moving at least one of (A) the signal light beam and the reference light beam, and (B) the optical recording medium,

wherein each page of the hologram is newly recorded at a recording position different from a recording position of each page of a hologram previously recorded in the optical recording medium.

11. (Original) A hologram recording method according to claim 10, wherein the recording position where each page of the hologram is recorded is a position where light beam intensity of a reproduced light beam from each page of the hologram previously recorded in the optical recording medium is minimized.

12. (Original) A hologram recording method according to claim 10, wherein a polarization state of the signal light beam or the reference light beam at the time of recording each page of the hologram is caused to be different from a polarization state of the signal light beam or the reference light beam at the time of recording each page of the hologram previously recorded in the optical recording medium.

13. (Original) A hologram recording method according to claim 12, wherein:

a polarization direction of the signal light beam and a polarization direction of the reference light beam at the time of newly recording each page of the hologram are caused to be orthogonal to each other when a polarization direction of the signal light beam and a

polarization direction of the reference light beam at the time of recording each page of the hologram previously recorded in the optical recording medium are parallel to each other; and

the polarization direction of the signal light beam and the polarization direction of the reference light beam at the time of newly recording each page of the hologram are caused to be parallel to each other when the polarization direction of the signal light beam and the polarization direction of the reference light beam at the time of recording each page of the hologram previously recorded in the optical recording medium are orthogonal to each other.

14. (Original) A hologram recording method according to claim 10, wherein the optical recording medium comprises a photorefractive material.

15. (Original) A hologram recording method according to claim 10, wherein the optical recording medium comprises a photochromic material.

16. (Original) A hologram recording method according to claim 10, wherein the optical recording medium comprises a polarization sensitive material.

17. (Original) A hologram recording method according to claim 10, wherein the optical recording medium comprises at least one kind of polymer selected from polyesters.

18. (Original) A hologram recording method according to claim 17, wherein the at least one kind of polymer has an azobenzene structure in a side chain.

19. (Original) A hologram recording method comprising:

irradiating an optical recording medium with a signal light beam and a reference light beam at the same time while changing wavelengths of the signal light beam and the reference light beam, in such a manner that an angle formed between the signal light beam and the reference light beam is made a constant value; and

performing multiple recording of information of the signal light beam as a hologram of a plurality of pages in the optical recording medium,

wherein each page of the hologram is newly recorded by using the signal light beam and the reference light beam, which have wavelengths different from wavelengths at the time of recording each page of a hologram previously recorded in the optical recording medium.

20. (Original) A hologram recording method according to claim 19, wherein each page of the hologram is recorded by using the signal light beam and the reference light beam, which have wavelengths at which light beam intensity of a reproduced light beam from each page of the hologram previously recorded in the optical recording medium is minimized.

21. (Original) A hologram recording method according to claim 19, wherein a polarization state of the signal light beam or the reference light beam at the time of recording each page of the hologram is caused to be different from a polarization state of the signal light beam or the reference light beam at the time of recording each page of the hologram previously recorded in the optical recording medium.

22. (Original) A hologram recording method according to claim 21, wherein:

a polarization direction of the signal light beam and a polarization direction of the reference light beam at the time of newly recording each page of the hologram are caused to be orthogonal to each other when a polarization direction of the signal light beam and a polarization direction of the reference light beam at the time of recording each page of the hologram previously recorded in the optical recording medium are parallel to each other; and

the polarization direction of the signal light beam and the polarization direction of the reference light beam at the time of newly recording each page of the hologram are caused to be parallel to each other when the polarization direction of the signal light beam

and the polarization direction of the reference light beam at the time of recording each page of the hologram previously recorded in the optical recording medium are orthogonal to each other.

23. (Original) A hologram recording method according to claim 19, wherein the optical recording medium comprises a photorefractive material.

24. (Original) A hologram recording method according to claim 19, wherein the optical recording medium comprises a photochromic material.

25. (Original) A hologram recording method according to claim 19, wherein the optical recording medium comprises a polarization sensitive material.

26. (Original) A hologram recording method according to claim 19, wherein the optical recording medium comprises at least one kind of polymer selected from polyesters.

27. (Original) A hologram recording method according to claim 26, wherein the at least one kind of polymer has an azobenzene structure in a side chain.

28. (Original) A hologram recording apparatus which multiple-records information of a signal light beam as a hologram of a plurality of pages in an optical recording medium, wherein the hologram recording apparatus changes a recording angle by irradiating the optical recording medium with a signal light beam and a reference light beam at the same time while changing an angle formed between the signal light beam and the reference light beam, such that each page of the hologram is newly recorded at a recording angle different from a recording angle of each page of a hologram previously recorded in the optical recording medium.

29. (Original) A hologram recording apparatus which multiple-records information of a signal light beam as a hologram of a plurality of pages in an optical recording medium, wherein the hologram recording apparatus makes an angle formed

between the signal light beam and a reference light beam a constant value and changes a recording position by irradiating the optical recording medium with the signal light beam and the reference light beam at the same time while relatively moving at least one of (A) the signal light beam and the reference light beam, and (B) the optical recording medium, such that each page of the hologram is newly recorded at a recording position different from a recording position of each page of a hologram previously recorded in the optical recording medium.

30. (Original) A hologram recording apparatus which multiple-records information of a signal light beam as a hologram of a plurality of pages in an optical recording medium, wherein the hologram recording apparatus makes an angle formed between the signal light beam and a reference light beam a constant value and irradiates the optical recording medium with the signal light beam and the reference light beam at the same time while changing wavelengths of the signal light beam and the reference light beam, such that each page of the hologram is newly recorded by using the signal light beam and the reference light beam, which have wavelengths different from wavelengths at the time of recording each page of a hologram previously recorded in the optical recording medium.

31. (Original) A hologram recording apparatus comprising:

a light source for emitting a coherent light beam;

a stage which rotates or moves an optical recording medium;

a light beam separating optical path changing device which changes an optical path so that the optical recording medium is irradiated with a reference light beam and a signal light beam at the same time after the coherent light beam is separated into a light beam for the reference light beam and a light beam for the signal light beam;

a spatial light modulator which is arranged on the optical path of the light beam for the signal light beam, and modulates the light beam for the signal light beam according to a supplied recording signal for each page so as to generate a signal light beam for recording each page of a hologram; and

a signal supplying device which supplies the recording signal for each page to the spatial light modulator so that each page of the hologram is recorded at a position where a maximum point of light beam intensity of a reproduced light beam is shifted by a predetermined amount when each page of the recorded hologram is reproduced, and newly supplies the recording signal for each page to the spatial light modulator so that each page of the hologram is newly recorded at a recording position which is different from a recording position of each page of a hologram previously recorded in the optical recording medium.

32. (Original) A hologram recording apparatus according to claim 31, wherein the recording position where each page of the hologram is newly recorded is a position where a light beam intensity of a reproduced light beam from each page of the hologram previously recorded in the optical recording medium is minimized.

33. (Original) A hologram recording apparatus according to claim 31, further comprising:

an analyzer which transmits a component, in a predetermined polarization direction, of a diffraction light beam from each page of the hologram recorded in the optical recording medium; and

a detector which detects intensities of transmitted light beams that are transmitted through the analyzer.

34. (Original) A hologram recording apparatus according to claim 31, wherein a polarization state of the signal light beam or the reference light beam at the time of newly

recording each page of the hologram is caused to be different from a polarization state of the signal light beam or the reference light beam at the time of recording each page of the hologram previously recorded in the optical recording medium.

35. (Original) A hologram recording apparatus according to claim 34, wherein:

a polarization direction of the signal light beam and a polarization direction of the reference light beam at the time of newly recording each page of the hologram are caused to be orthogonal to each other when a polarization direction of the signal light beam and a polarization direction of the reference light beam at the time of recording each page of the hologram previously recorded in the optical recording medium are parallel to each other; and the polarization direction of the signal light beam and the polarization direction of the reference light beam at the time of newly recording each page of the hologram are caused to be parallel to each other when the polarization direction of the signal light beam and the polarization direction of the reference light beam at the time of recording each page of the hologram previously recorded in the optical recording medium are orthogonal to each other.

36. (New) A hologram recording method for rewriting a second hologram on a hologram recording medium on which a first hologram is recorded, the method comprising:

rewriting and recording the second hologram in a state in which a diffraction light beam intensity from the first hologram is minimized.

37. (New) The hologram recording method according to claim 36, wherein rewriting and recording the second hologram in the state in which the diffraction light beam intensity from the first hologram is minimized and a diffraction light beam intensity from the second hologram is maximized.

38. (New) The hologram recording method according to claim 36, wherein rewriting and recording the second hologram at a recording angle at which the diffraction light beam intensity from the first hologram is minimized.

39. (New) The hologram recording method according to claim 36, wherein rewriting and recording the second hologram at a position at which the diffraction light beam intensity from the first hologram is minimized.

40. (New) The hologram recording method according to claim 36, wherein rewriting and recording the second hologram using a wavelength with which the diffraction light beam intensity from the first hologram is minimized.